

# DATA SHEET

Part No.	AN5833SA
Package Code No.	SSOP 024 - P - 0300E

Contents

- Features ..... 3
- Applications ..... 3
- Package ..... 3
- Application Circuit ..... 4
- Block Diagram ..... 6
- Pin Descriptions ..... 7
- Absolute Maximum Ratings ..... 8
- Operating Supply Voltage Range ..... 8

# AN5833SA

## Silicon Monolithic Bipolar IC

### ■ Features

- Supports both I<sup>2</sup>C bus and parallel control
- Integrated SIF demodulation
- Fully adjustment - free ( when used with SIF input )  
2 adjustment points when used with baseband input
- Integrated voice AGC circuit
- Reduced peripheral component count
- Low power consumption ( typ.  $V_{CC} = 5\text{ V}$ ,  $I_{TOT} = 28\text{ mA}$  )
- Near pin to pin compatible with AN5832SA ( US TV audio multiplex demodulation IC )

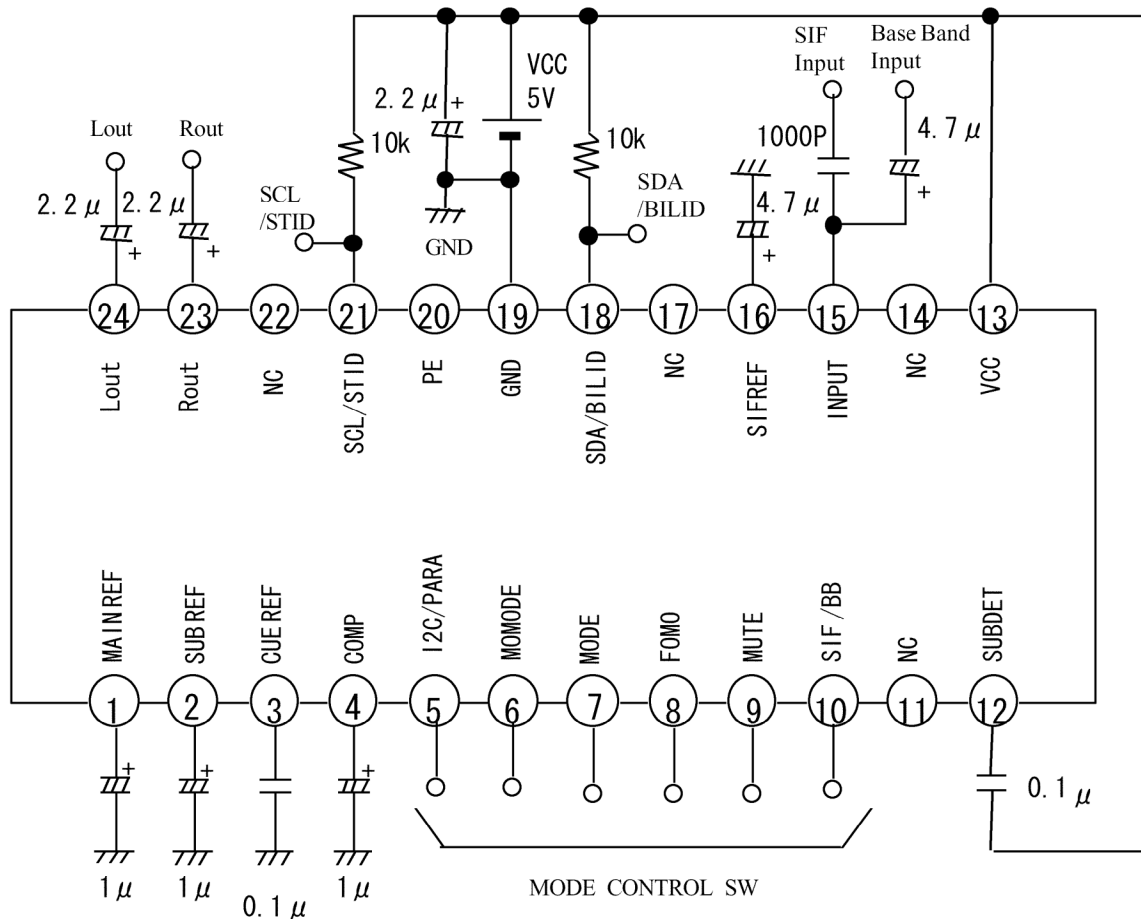
### ■ Applications

- TV sets, VCRs, DVD recorders, PCs, car navigation systems, and similar products for Japanese market

### ■ Package

- DIL-24PIN Plastic Package (SO Type)

# Application Circuit

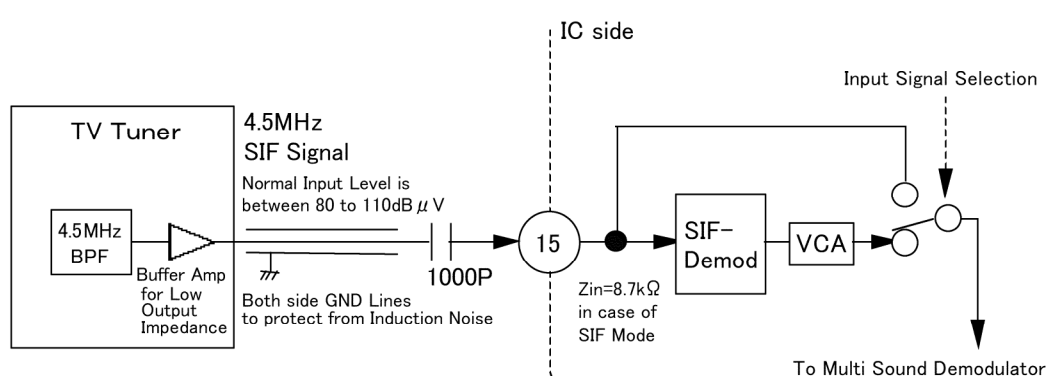


## < Instructions of Application Circuits >

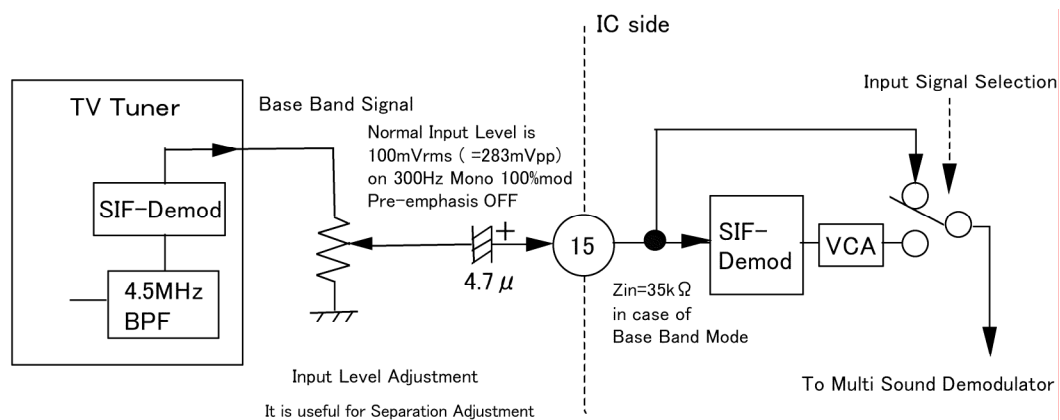
- 1) In case of using base band input, ICs were adjusted to perform good separation when input level is matched with 100 mV[rms] (= 283 mV[p-p]) on condition of mono 100% mod pre-emphasis OFF. However, if good enough separation can't be taken in the cause of un-matching frequency characteristic and so in input signal, it can adjust separation by the input volume.
- 2) In case of using SIF input, please set up the SIF input level from tuners between 80 dBμV to 110 dBμV in standard RF input conditions. Please select SIF - BPFs that group delay of 4.5 MHz  $\pm$  42 kHz is flat as possible. And also its gain band width is wide enough to don't loss the CUE signal that locate at 4.5 MHz  $\pm$  55 kHz.
- 3) About the characteristic of tuners, Please take the demodulation linearity to be over 250% to don't reduce the sub carrier when the over-modulation occur in high frequency sound by pre-emphasis is.
- 4) In measuring characteristics of separation, please use the stereo modulator that perform good characteristic on encoder and corrected well.  
In case of using SIF input, please correct FM modulation band to  $\pm$ 25 kHz exactly at mono 100% mod pre-emphasis OFF with the 0 carrier method.  
And, please use LPFs that reduce 30 kHz signal over 20 dB setting between line-outs and AB level meter

## ■ Application Circuit ( continued )

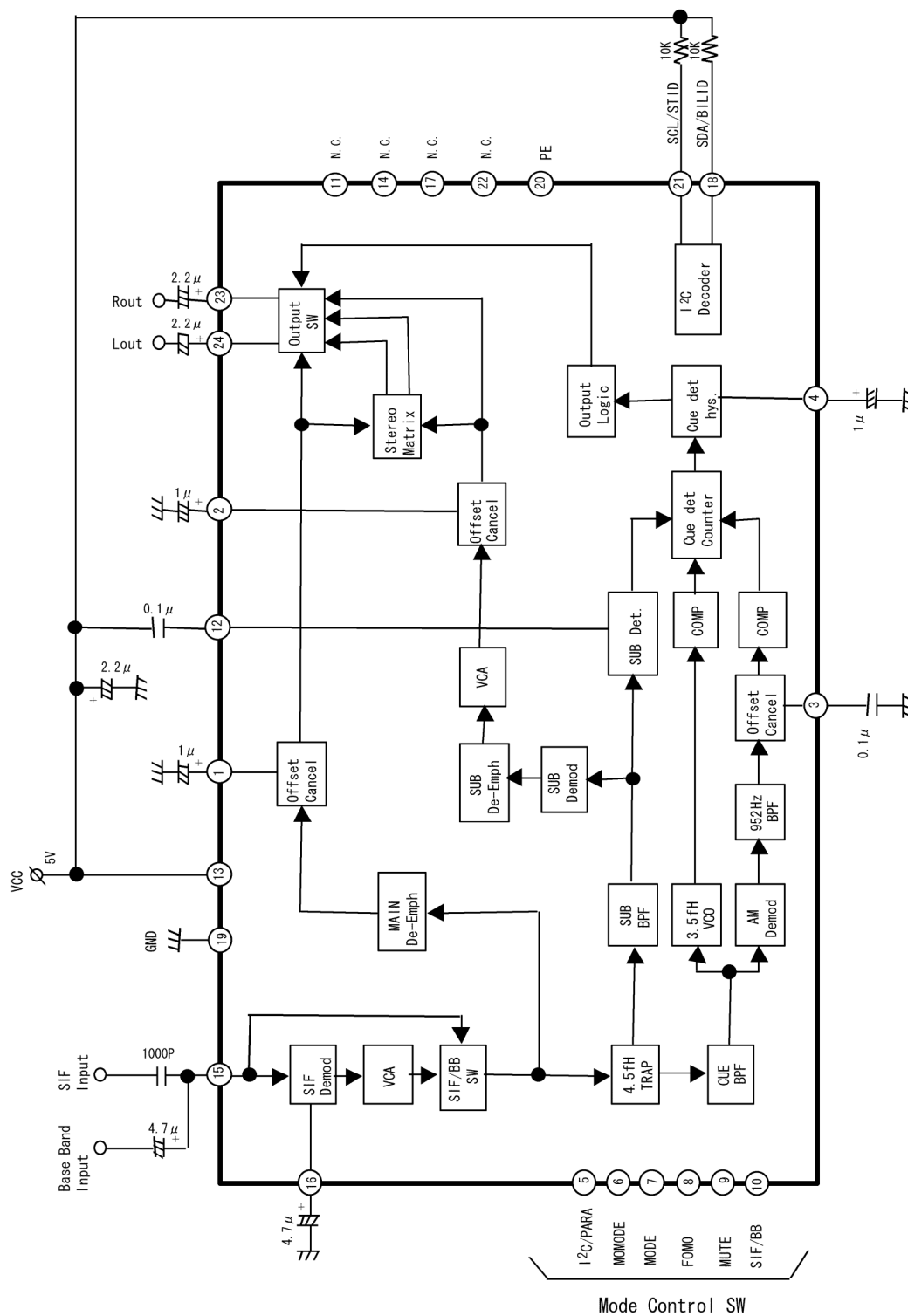
### ( 1 ) Example of No Adjustments Application Circuits in case of SIF Input



### ( 2 ) Example of No Adjustments Application Circuits in case of Base Band Input



- Block Diagram



## ■ Pin Descriptions

Pin No.	Function
1	MAIN REF
2	SUB REF
3	CUE DET
4	COMP
5	I <sup>2</sup> C / Parallel SW
6	MOMODE SW
7	MODE SW
8	Force monaural SW
9	Mute SW
10	SIF / Base band SW
11	N. C.
12	SUB DET
13	V <sub>CC</sub>
14	N. C.
15	Input
16	SIF REF
17	N. C.
18	SDA / BILID
19	Ground
20	PE
21	SCL / STID
22	N. C.
23	Right - channel output
24	Left - channel output

# Absolute Maximum Ratings

No.	Parameter	Symbol	Rating	Unit	Note
1	Storage temperature	$T_{\text{stg}}$	−55 to +125	°C	*1
2	Operating ambient temperature	$T_{\text{opr}}$	−20 to +85	°C	*1
3	Operating ambient atmospheric pressure	$P_{\text{opr}}$	$1.013 \times 10^5 \pm 0.61 \times 10^5$	Pa	
4	Operating constant gravity	$G_{\text{opr}}$	9 810	m/s <sup>2</sup>	
5	Operating shock	$S_{\text{opr}}$	4 900	m/s <sup>2</sup>	
6	Supply voltage	$V_{\text{CC}}$	6.0	V	
7	Supply current	$I_{\text{CC}}$	32	mA	
8	Power dissipation	$P_{\text{D}}$	192	mW	$T_{\text{a}} = 85^{\circ}\text{C}$

Note ) \*1 :  $T_{\text{a}} = 25^{\circ}\text{C}$  except storage temperature, and operating ambient temperature.

# Operating Supply Voltage Range

Operating supply voltage range	$V_{\text{CC}}$	4.5 V to 5.5 V
--------------------------------	-----------------	----------------



## Request for your special attention and precautions in using the technical information and semiconductors described in this book

- (1) If any of the products or technical information described in this book is to be exported or provided to non-residents, the laws and regulations of the exporting country, especially, those with regard to security export control, must be observed.
- (2) The technical information described in this book is intended only to show the main characteristics and application circuit examples of the products, and no license is granted under any intellectual property right or other right owned by our company or any other company. Therefore, no responsibility is assumed by our company as to the infringement upon any such right owned by any other company which may arise as a result of the use of technical information described in this book.
- (3) The products described in this book are intended to be used for standard applications or general electronic equipment (such as office equipment, communications equipment, measuring instruments and household appliances).  
Consult our sales staff in advance for information on the following applications:
  - Special applications (such as for airplanes, aerospace, automobiles, traffic control equipment, combustion equipment, life support systems and safety devices) in which exceptional quality and reliability are required, or if the failure or malfunction of the products may directly jeopardize life or harm the human body.
  - Any applications other than the standard applications intended.
- (4) The products and product specifications described in this book are subject to change without notice for modification and/or improvement. At the final stage of your design, purchasing, or use of the products, therefore, ask for the most up-to-date Product Standards in advance to make sure that the latest specifications satisfy your requirements.
- (5) When designing your equipment, comply with the range of absolute maximum rating and the guaranteed operating conditions (operating power supply voltage and operating environment etc.). Especially, please be careful not to exceed the range of absolute maximum rating on the transient state, such as power-on, power-off and mode-switching. Otherwise, we will not be liable for any defect which may arise later in your equipment.
  - ☐ Even when the products are used within the guaranteed values, take into the consideration of incidence of break down and failure mode, possible to occur to semiconductor products. Measures on the systems such as redundant design, arresting the spread of fire or preventing glitch are recommended in order to prevent physical injury, fire, social damages, for example, by using the products.
- (6) Comply with the instructions for use in order to prevent breakdown and characteristics change due to external factors (ESD, EOS, thermal stress and mechanical stress) at the time of handling, mounting or at customer's process. When using products for which damp-proof packing is required, satisfy the conditions, such as shelf life and the elapsed time since first opening the packages.
- (7) This book may be not reprinted or reproduced whether wholly or partially, without the prior written permission of Matsushita Electric Industrial Co., Ltd.